

In the Claims:

Please cancel Claim 2, without prejudice and amend Claims 1, 4 and 7 as follows:

1. (Currently Amended) A shock detection device adapted to output a shock detection signal for stopping writing into a disk medium when a shock applied to said disk medium satisfies a prescribed condition, said shock detection device comprising:

    a shock sensor that detects a shock applied to said disk medium and outputs a corresponding shock sensor signal;

    a variable shock detection slice value setting part that sets a variable shock detection slice value, which is a threshold for said shock sensor signal, based on a position error signal representative of the relative position of said disk medium in a radial direction thereof from the center of a target track of said disk medium; and

    a shock determining part that outputs a shock detection signal when said shock sensor signal exceeds said variable shock detection slice value.value,

wherein said variable shock detection slice value setting part sets said variable shock detection slice value in such a manner that the smaller the absolute value of said position error signal, the larger said variable shock detection slice value becomes.

2. (Cancelled)

3. (Original) The shock detection device according to claim 1, wherein said shock determining part does not output the shock detection signal when the absolute value of said position error signal is in a prescribed range.

4. (Currently Amended) ~~The~~<sup>A</sup> shock detection device according to claim 1, ~~further adapted to output a shock detection signal for stopping writing into a disk medium when a shock applied to said disk medium satisfies a prescribed condition, said shock detection device comprising:~~

~~a shock sensor that detects a shock applied to said disk medium and outputs a corresponding shock sensor signal;~~

~~a variable shock detection slice value setting part that sets a variable shock detection slice value, which is a threshold for said shock sensor signal, based on a position error signal representative of the relative position of said disk medium in a radial direction thereof from the center of a target track of said disk medium;~~

~~a shock determining part that outputs a shock detection signal when said shock sensor signal exceeds said variable shock detection slice; and comprising~~

~~a shock sensor signal correction part that outputs, as a new shock sensor signal, a signal by removing noise generated in synchronization with writing from said shock sensor signal.~~

5. (Original) A shock detection device adapted to output a shock detection signal for stopping writing into a disk medium when a shock applied to said disk medium satisfies a prescribed condition, said shock detection device comprising:

a shock sensor that detects a shock applied to said disk medium and outputs a corresponding shock sensor signal;

a shock sensor signal correction part that outputs a corrected shock sensor signal by removing noise generated in synchronization with writing from said shock sensor signal; and

a shock determining part that outputs a shock detection signal when said corrected shock sensor signal exceeds a prescribed shock detection slice value.

6. (Original) The shock detection device as set forth in claim 4, wherein said noise is extracted by averaging a plurality of shock sensor signal outputs acquired in synchronization with the timing of said writing.

7. (Currently Amended) A disk drive adapted to stop writing when a shock satisfies a prescribed condition, said disk drive comprising:

a control part that outputs data input from an outside interface and that also outputs the timing of writing at the time of writing the data;

a disk medium into which the data is written;

an R/W head that performs writing or reading with respect to said disk medium;

an R/W circuit that reads said position error signal from an output of said R/W head, and outputs data from said control part to said R/W head in accordance with the timing of writing from said control part;

a shock detection device ~~according to claim 1~~ including:

a shock sensor that detects a shock applied to said disk medium and outputs a corresponding shock sensor signal;

a variable shock detection slice value setting part that sets a variable shock detection slice value, which is a threshold for said shock sensor signal, based on a position error signal representative of the relative position of said disk medium in a radial direction thereof from the center of a target track of said disk medium; and

a shock determining part that outputs a shock detection signal when said shock sensor signal exceeds said variable shock detection slice value,

wherein said shock detection device that outputs said shock detection signal when a shock applied to said disk medium satisfies said prescribed condition; and

wherein said disk drive further comprises a write-protection circuit that stops the timing of writing from said control part when said shock detection signal is input thereto from said shock detection device.

8. (Original) A shock detection method adapted to output a shock detection signal for stopping writing into a disk medium when a shock applied to said disk medium satisfies a prescribed condition, said shock detection method comprising the steps of:

detecting a shock applied to said disk medium and outputting a corresponding shock sensor signal;

setting a variable shock detection slice value, which is a threshold for said shock sensor signal, based on a position error signal representative of the relative position of said disk medium in a radial direction thereof from the center of a target track of said disk medium; and

generating a new shock sensor signal by removing noise generated in synchronization with writing from said shock sensor signal; and

outputting a shock detection signal when said new shock sensor signal exceeds said variable shock detection slice value.

9. (Original) A shock detection program for making a computer execute a shock detection method of outputting a shock detection signal for stopping writing into a disk medium when a shock applied to said disk medium satisfies a prescribed condition, said shock detection program being operable to make the computer perform;

a step of detecting a shock applied to said disk medium and outputting a corresponding shock sensor signal;

a step of setting a variable shock detection slice value, which is a threshold for said shock sensor signal, based on a position error signal representative of the relative position of said disk medium in a radial direction thereof from the center of a target track of said disk medium;

a step of generating a new shock sensor signal by removing noise generated in synchronization with writing from said shock sensor signal; and

a step of outputting a shock detection signal when said shock sensor signal exceeds said variable shock detection slice value.